

In the Claims:

Please amend the claims as follows:

1-25 (cancelled)

26. (new) A micro-optical grid structure produced on a substrate, said grid structure being produced as a surface structure, a structure protected with a protective layer, or as an entirely or partially buried structure, which grid structure is arranged to produce for a viewer a holographic or a corresponding visual effect based on the diffraction of light by directing the light diffracted from said grid structure and corresponding to a visible wavelength substantially to one or more diffraction orders, each single diffraction order corresponding to a certain observing direction of the visual effect observable at said visible wavelength, and said grid structure being arranged to leave a free range of angles such that said grid structure being examined from directions corresponding to said range of angles does not produce for the viewer a clearly observable effect based on diffraction, wherein said grid structure is embossed, the ratio of the grid period of said grid structure to said visible wavelength being smaller than 5, and said grid structure comprising non-metallic material only.

27. (new) The grid structure according to claim 26, wherein said grid structure is arranged to direct the light diffracted therefrom substantially in only one diffraction order, i.e. substantially in only one observing direction that preferably corresponds to the diffraction order $m = -1$.

28. (new) The grid structure according to claim 26, wherein said free range of angles is at least 10°.

29. (new) The grid structure according to claim 26, wherein said grid structure is produced on a substantially transparent substrate.

30. (new) The grid structure according to claim 29, wherein said substrate is made of plastic or lacquer, preferably of a plastic film or a lacquer layer.

31. (new) The grid structure according to claim 26, wherein said grid structure is produced on paper, paperboard or other corresponding substrate.

32. (new) The grid structure according to claim 26, wherein the substrate of said grid structure comprises one or several dielectric thin film coatings on the entire surface area of the substrate or only at the locations corresponding to said grid structure.

33. (new) A method for producing a micro-optical grid structure on a substrate, said grid structure being produced as a surface structure, a structure protected with a protective layer, or as an entirely or partially buried structure, which grid structure is adapted to produce for a viewer a holographic or corresponding visual effect based on the diffraction of light, said method comprising at least selecting the shape of the grid profile of said grid structure together with the grid parameters such that the light diffracted from said grid structure and corresponding to a

visible wavelength is directed substantially to one or more diffraction orders, each single diffraction order corresponding to a certain observing direction of the visual effect observed at said visible wavelength, and a free range of angles remaining such that said grid structure being examined from directions corresponding to said range of angles does not produce for the viewer a clearly observable effect based on diffraction, wherein said method further comprises embossing said grid structure such that the ratio of the grid period of said grid structure to said visible wavelength is smaller than 5, said grid structure comprising non-metallic material only.

34. (new) The method according to claim 33, wherein the value of the incidence angle of light impinging upon said grid structure at said visible wavelength is fixed, and the ratio of said grid period (d) and said visible wavelength is selected such that one desired observing direction is attained, said observing direction being preferably selected so that it corresponds to the diffraction order $m = -1$, wherein the desired design wavelength is diffracted to said one observing direction.

35. (new) The method according to claim 33, wherein the parameters of said grid structure are selected in such a manner that the free range of angles is at least 10° .

36. (new) The method according to claim 33, wherein the diffraction efficiency to said one or more observing directions is affected by the selection of the parameters of said grid structure.

37. (new) The method according to claim 33, wherein the width of said grid profile is

selected to be substantially half of said grid period.

38. (new) The method according to claim 33, wherein substantially one quarter of the value of said visible wavelength is selected as the value of the height of said grid profile.

39. (new) The method according to claim 33, wherein a substantially transparent material, preferably plastic, lacquer or the like is selected as the substrate of the grid structure.

40. (new) A product comprising at least one pattern area formed of a micro-optical grid structure produced on a substrate, said grid structure being produced as a surface structure, a structure protected with a protective layer, or as an entirely or partially buried structure, which grid structure is arranged to produce for a viewer a holographic or a corresponding visual effect based on the diffraction of light by directing the light diffracted from said grid structure and corresponding to a visible wavelength substantially to one or more diffraction orders, each single diffraction order corresponding to a certain observing direction of the visual effect observable at said visible wavelength, and said grid structure being arranged to leave a free range of angles such that said grid structure being examined from directions corresponding to said range of angles does not produce for the viewer a clearly observable effect based on diffraction, wherein said grid structure is embossed, the ratio of the grid period of said grid structure to said visible wavelength being smaller than 5, and said grid structure comprising non-metallic material only.

41. (new) The product according to claim 40, wherein said product is made of plastic, preferably of a plastic film.

42. (new) The product according to claim 40, wherein said product is made of paper, paperboard or a corresponding material.

43. (new) The product according to claim 40, wherein said product is of packing material.

44. (new) The product according to claim 40, wherein said product is a printed product.

45. (new) The product according to claim 40, wherein said product is made of substantially transparent material.

46. (new) The product according to claim 40, wherein the basic material of said product at the same time acts as the substrate of the grid structure.

47. (new) The product according to claim 40, wherein when the product comprises several pattern areas, at least two of said pattern areas have different observing directions and/or design wavelengths.

48. (new) The product according to claim 40, wherein said at least one pattern area forms as an effect a trademark, a logo, a product description or the like.

49. (new) The product according to claim 40, wherein said at least one pattern area

forms as an effect characters or text.

50. (new) The product according to claim 40, wherein said product comprises several adjacent pattern areas that are similar to each other and that are arranged to form together a larger area with a substantially uniform visual effect.